

## A NEW SPECIES OF *TURRÆA* (MELIACEÆ) FROM GHANA

by J. B. HALL

RÉSUMÉ : Description d'une nouvelle espèce de *Turræa* du Ghana plus proche des espèces est-africaines que de celles déjà connues en Afrique occidentale.

SUMMARY : A new species of *Turræa* is described from Ghana, which is more closely related to some East African species than to other West African species.

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In the second edition of the Flora of West Tropical Africa (HUTCHINSON & DALZIEL, rev. KEAY, 1 : 708, 1958), *Turræa* is represented by the following four species: *T. heterophylla* Sm., *T. vogelii* Hook. f. ex Benth., *T. leonensis* Keay and *T. pellegriniana* Keay. A further species has since been described from Ivory Coast: *T. adjanohounii* Aké Assi (Bull. Jard. Bot. Brux. 31 : 507, 1961). Recent collecting in Ghana has revealed the existence of a sixth species.

***Turræa ghanensis* J. B. Hall, sp. nov. — Pl. 1.**

*T. floribundæ* Hochst. affinis sed ovario dense persistente pubescenti 6-8-loculari, stigmate turbiniformi umbonato, tubo staminum appendicibus brevioribus angustioribus, fructu pubescenti minus sulcato, foliis minoribus, satis distinguenda.

*Arbor parva ad 5 m alta; truncus usque 8 cm diametro; ramuli juventute pubescentes, virides, 1-1,5 mm diametra, maturitate glabrescentes, brunnei. Folia membranacea, ovata vel elliptica, basi cuneata, apice obtuse subacuminata, margine integra vel 1-2 crenis præbentia, (3-) 6-8 cm longa, (2-) 3-4 cm lata, lamina nervisque utrinque pubescentibus haud glabrescentibus; nervi laterales utrinque circiter 6 arcuati; petiolus tenuis circiter 5 mm longus.*

*Inflorescentiæ racemiformes pubescentes 1-3-floræ ex axillis foliorum delapsorum in ramulis maturis sub ramulis novellis exortæ; pedunculus 1-2 mm longus; rhachis florifera 3-8 mm longa, bracteis ovatis 1-1,5 mm longis instructa; pedicelli 5-6 mm longi ad apicem rhachidis inserti. Calyx campanulatus, extus pubescens intus glaber, tubo 1,5 mm longo, lobis deltoideis acutis 1,5 mm longis. Petala 5, alba, glabra, 2,5-3 cm longa, anguste spathulata, parte proximali lineari 2 mm lata induplicata, parte distali elliptica usque 5 mm lata plana. Staminorum tubus omnino glaber, rectus anguste trambiformis, 1,5-2 cm longus, basi 1 mm apice 2,5 mm diametro, appendicibus terminalibus 1,5 mm longis profunde bifidis, lobis antheris æquantibus, 0,1-0,2 mm latis; antheræ 9-10 sessiles, ellipticæ apiculatæ, 1 mm longæ, 0,5 mm latæ, in ora tubi insertæ. Ovarium dense pubescens, ovoideum circiter*

3 mm longum, 2 mm diametro, 6-8-loculare; stylus glaber 2,5-3 cm longus, 1 mm diametro; stigma turbinatum 1,5 mm longum 1,5 mm diametro, umbone papilloso 1,2 mm diametro 0,3 mm alto coronatum. Discus annularis inconspicuus.

*Capsula dense patente pubescens, ante dehiscentiam subspherica, leviter sulcata, circiter 2 cm diametro, parietibus crassis, per dehiscentiam in 4 valvis ad dimidium fissa septa aurantiaca praebens. Semina brunnea nitida reniformia, circiter 5 mm longa, 3 mm diametro, arillo aurantiaco septo adherenti.*

TYPUS : *Adjei GC 44522* (holo-, FHO; iso-, GC, K, P).

Shrub or small tree to 5 m high, much branched with slender twigs to 1.5 mm diameter. Leaves pubescent, thin, ovate or elliptic, cuneate at the base and subacuminate at the apex, margin entire, or somewhat lobed especially in young plants. The short, racemose, 1-3-flowered inflorescences (or leafy spur-shoots) develop in the late dry season from the axils of recently-fallen leaves, and the flowers open just as the young leaves of the current year's new shoots are expanding; consequently the leaves on the twigs bearing flowers are smaller than those on fruiting twigs.

Inflorescences densely pubescent, with peduncle 1-2 mm long, axis 3-8 mm long, mostly obscured by 1 mm long ovate bracts, and pedicels 5-6 mm long inserted from axils of distal bracts. Calyx pubescent, with tube 1.5 mm long, and deltoid, acute lobes 1.5 mm long. Petals white, completely glabrous, narrowly spatulate, 2.5-3 cm long, induplicate below and flat distally. Stamen tube completely glabrous, straight, narrowly trumpet-shaped, 1.5-2 cm long, up to 2.5 mm in diameter, bearing 9-10 sessile stamens on its rim. Outside the stamens and alternating with them are bifid appendages with narrow lobes of about the same length as the stamens. Ovary densely pubescent, 6-8-locular. Style completely glabrous, ending in a turbinate stigma with a shortly papillose umbo.

Fruit densely spreading-pubescent, grooved, thick-walled, splitting about half-way to reveal orange septa attached to the orange arils of the shiny, brown, bean-shaped seeds.

GHANA : *Hall & Enti GC 40249*, Akosombo, undergrowth of dry forest, sterile, 25.5.1970; *Hall GC 43628*, same locality, immature fruits, 6.5.1972; *Adjei GC 44522*, same locality, flowering, April 1973; *Hall GC 43689*, same locality, fruiting, 26.5.1975; *Hall GC 43398*, Kpandu Range Forest Reserve, margin of dry forest, sterile, 18.6.1972.

A revised key to the species of *Turraea* known from the area of the Flora of West Tropical Africa (*T. adjanohounii* is included although its status will not be certain until its flowers are better known):

1. Slender woody climbers in moist forest; leaves normally entire, nerves 7 to 12 on each side of lamina.
  2. Inflorescence 1-2-flowered, peduncle less than 1 cm long; fruit 4-valved; lateral nerves 9-12 on each side of lamina. . . . . *T. adjanohounii*
  - 2'. Inflorescence to 15-flowered, peduncle about 5 cm long; fruit 5-valved; lateral nerves about 7 on each side of lamina . . . . . *T. vogelii*
- 1'. Erect shrubs or small trees, in drier forest; leaves often lobed (ex. *T. pellegriniana*); nerves c. 6 per side.
  3. Inflorescences produced from axils of fallen leaves on previous year's twigs.



Pl. 1. — *Turraea ghanensis* J. B. Hall: 1, twig with new leafy shoots and inflorescences  $\times 1/2$ ; 2, part of twig  $\times 2.5$ , with inflorescence, flower, and part of a leaf showing underside; 3, part of summit of stamen tube from outside showing appendages partly concealing the anthers  $\times 10$ ; 4, part of summit of stamen tube from inside  $\times 10$ ; 5, transverse section through young ovary  $\times 20$ ; 6, twig with mature fruits just prior to dehiscence  $\times 1/2$ ; 7, fruit half-opened  $\times 1$ ; 8, seed with portion of septum attached to aril  $\times 2$ .

4. Anther inserted and concealed within the crenate-margined stamen tube, which is 10 mm long and pubescent within; inflorescences up to 20-flowered; ovary glabrous, 5-locular; leaves up to 15 cm long, glabrescent ..... *T. pellegriniana*
- 4'. Anthers inserted at the mouth of the stamen tube, approximately equal in length to bifid appendages which are attached outside them, stamen tube 15-20 mm long, completely glabrous; inflorescences 1-3-flowered; ovary densely pubescent, 6-8-lobed; leaves pubescent, to 8 cm long ..... *T. ghanensis*
- 3'. Inflorescences produced from axils of existing leaves on current year's twigs.
  5. Inflorescence 6-16-flowered, stamen tube 25-28 mm long, anthers about twice as long as appendages of the stamen tube; ovary 5-locular; small tree to 5 m high ..... *T. leonensis*
  - 5'. Inflorescence 1-2-flowered, stamen tube 9-13 mm long, anthers about half as long as appendages of stamen tube; ovary 5-8-locular; shrub to 2 m high ..... *T. heterophylla*

*T. ghanensis* is not closely related to any other of the above species, differing from all of them (so far as is known) in the following ways: 1) stamen tube completely glabrous; 2) anthers approximately equalling stamen tube appendages; 3) ovary and fruit pubescent; 4) fruit thick-walled, splitting only halfway when ripe; 5) leaves persistently pubescent on both lamina and nerves. It seems, rather, that *T. ghanensis* is more similar to a group of East and Central African species: *T. floribunda* occurring from Uganda and Kenya to South Africa appears to be its closest relative; *T. wakefieldii* Oliv. from Moçambique and *T. mombassana* Hieron ex C. DC. from Kenya are also fairly close.

The dry forest on the slopes of the Volta Gorge at Akosombo, where *T. ghanensis* occurs, is rather rich in disjunct species. Growing with it (and with strikingly similar leaves) is *Pteleopsis habeensis* Aubrév. ex Keay, otherwise known from the Bandiagara area in Mali and the Yankari Game Reserve in Northern Nigeria. *Talbottella gentii* Hutch. & Greenway is locally dominant in the Akosombo forests; formerly thought to be endemic to Ghana it has now been discovered (R. LETOUZEY, pers. comm.) in northern Cameroun. *Acalypha neptunica* Muell. Arg., characteristic of *Talbottella* forests in Ghana, is otherwise known only from central and eastern Africa. On rocky outcrops in forest here, and on nearby hills, is found *Ochna ovata* F. Hoffm., an East African species not known elsewhere in West Africa. The discovery of this new species of *Turraea* is thus interesting as providing further evidence of a former connection between the dry forest of coastal Ghana and similar vegetation at the other side of Africa.

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